Claims

Having thus described the invention, what is claimed as new and desired to
be secured by Letters Patent is:

1. In combination with an irrigation system having system components such as a
water supply valve or a water supply pump and valves for selectively directing
water to irrigation devices in at least one irrigation zone, an irrigation control
system comprising:

an irrigation controller including a microprocessor and a memory for storing
irrigation program data and schedule data corresponding to the time and duration of
the flow of water to said at least one irrigation zone, said microprocessor for
producing control signals for activating components of the irrigation system, said
microprocessor and said memory including an embedded Web server for
communicating said irrigation program data and schedule data to and from HTML
formats,

an at least one relay in communication with said microprocessor for
receiving said control signals and for switching electrical currents to said system
components in response to said signals for activation of said system components,

an Ethernet connection device for connecting said microprocessor to a LAN,
whereby a network accessing device having a Web browser connected to said LAN
may be used to interactively access said embedded Web server of said irrigation
controller for viewing and changing of said irrigation program and schedule data.

2. The system of claim 1, wherein,

the Ethernet connection device is an on-board Ethernet chipset.

3. The system of claim 1, wherein,

said LAN is also connected to the Internet such that a network accessing device connected to the Internet and having a Web browser may be used to interactively access said embedded Web server of said irrigation controller for viewing and changing of said irrigation program and schedule data.

4. The system of claim one, further comprising:

at least one weather sensor connected to said microprocessor and said memory storing weather data from said at least one weather sensor so that said network accessing device may be used to interactively access said embedded Web server to view said weather data.

5. The system of claim 1, wherein,

said HTML formats include a program and schedule form for viewing and changing program data including program names and run times for each zone and schedule data including start times for each program.

6. The system of claim 1, wherein said at least one relay is a triac.

7. In combination with an irrigation system having system components such as a water supply valve or a water supply pump and valves for selectively directing water to irrigation devices in at least one irrigation zone, an irrigation control system comprising:

an irrigation controller including a microprocessor and a memory for storing irrigation program data and schedule data corresponding to the time and duration of the flow of water to said at least one irrigation zone, said microprocessor for producing control signals for activating components of the irrigation system, said microprocessor and said memory including an embedded Web server for

communicating said irrigation program data and schedule data to and from HTML formats,

an at least one relay in communication with said microprocessor for receiving said control signals and for switching electrical currents to said system components in response to said signals for activation of said system components,

an on-board Ethernet chipset for connecting the microprocessor to a LAN, whereby a network accessing device having a Web browser connected to said LAN may be used to interactively access said embedded Web server of said irrigation controller for viewing and changing of said irrigation program and schedule data.

at least one weather sensor connected to said microprocessor and said memory storing weather data from said at least one weather sensor so that said network accessing device may be used to view said weather data.

8. The system of claim 7, wherein

said at least one weather sensor includes a temperature gauge which produces a stop signal when the measured temperature falls below the freezing point of water and wherein said microprocessor is programmed to stop the operation of said irrigation system when receiving said stop signal.

9. The system of claim 7, wherein

said at least one weather sensor includes a rain detector which produces a stop signal when rain is detected and wherein said microprocessor is programmed to stop the operation of said irrigation system when receiving said stop signal.

10. The system of claim 7, further comprising

a network accessing device connected to said LAN programmed to automatically access said program data and said weather data and change said program data in response to changes in said weather data.

11. The system of claim 7, wherein,

said LAN is also connected to the Internet such that a network accessing device connected to the Internet and having a Web browser may be used to interactively access said embedded Web server of said irrigation controller for viewing and changing of said irrigation program and schedule data.

12. The system of claim 7, wherein,

said LAN is also connected to the Internet and said irrigation control system further comprises a server adapted for communication using HTML connected to the Internet for interactively accessing said embedded Web server of said irrigation controller to automatically adjust said program data and said schedule data in response to changes in said weather data.

13. The system of claim 7, wherein said at least one relay is a triac.

14. In combination with an irrigation system having system components such as a water supply valve or a water supply pump and valves for selectively directing water to irrigation devices in at least one irrigation zone, an irrigation control system comprising:

an irrigation controller including a microprocessor and a memory for storing irrigation program data and schedule data corresponding to the time and duration of the flow of water to said at least one irrigation zone, said microprocessor and said memory including an embedded Web server for communicating said irrigation program data and schedule data to and from HTML formats, said HTML formats including a program and schedule form for viewing and changing program data including run times for each zone and schedule data including start times for each program,

at least one weather sensor connected to said microprocessor and said

memory storing weather data from said at least one weather sensor,

an at least one relay in communication with said microprocessor for

receiving said control signals and for switching electrical currents to said system

components in response to said signals for activation of said system components,

an on-board Ethernet chipset for connecting the irrigation controller to a

LAN, such that a network accessing device having a Web browser connected to

said LAN may be used to interactively access said embedded Web server of said

irrigation controller for viewing said weather data and for viewing and changing of

said irrigation program and schedule data,

a connection for connecting said LAN to the Internet such that a network

accessing device connected to the Internet and having a Web browser may be used

to interactively access said embedded Web server of said irrigation controller for

viewing said weather data and for viewing and changing of said irrigation program

and schedule data.

15. The system of claim 14, further comprising:

a server adapted for communication using HTML connected to the Internet

for interactively accessing said embedded Web server of said irrigation controller to

automatically adjust said program data in response to changes in said weather data.

16. The system of claim 14, further comprising:

a server adapted for communication using HTML connected to said Internet

and accessible by said microprocessor via said LAN, said server receiving and

storing said weather data from said at least one sensor connected to said

microprocessor and maintaining additional weather data, said server programmed to

compare said weather data and said additional weather data against standard

seasonal weather conditions and then modify said program data of said irrigation

controller in response to variance of said weather data and said additional weather data from standard seasonal weather conditions.

17. A method for interactively communicating with an irrigation controller comprising the following steps:

(a) obtaining an irrigation controller including a processor, a memory and an Ethernet connecting device, said memory loaded with program and schedule for dictating the times and duration of irrigation operations and programmed with an embedded Web server for interactively communicating said irrigation program and schedule data in HTML format,

(b) connecting said ethernet connecting device of said irrigation controller to a network,

(c) obtaining a network connecting device capable of communication using HTML format,

(d) connecting said network connecting device to the network, and

(e) interactively communicating using said network connecting device with said irrigation controller to view or change said program or schedule data.

18. The method of claim 17 further comprising the steps of:

(a) obtaining weather data and changing said program or schedule data in response to changes in said weather data.

19. The method of claim 17 further comprising the steps of:

(a) providing an automatic rain gauge in communication with said processor, storing rainfall data in said memory of said irrigation controller and programming said embedded Web server to also interactively communicate said rainfall data, and,

(b) receiving said rain fall data from said irrigation controller using said network connecting device and changing said program or schedule data in response to said rainfall data.

20. The method of claim 17 further comprising the steps of:

(a) providing an automatic rain gauge in communication with said processor and storing rainfall data in said memory of said irrigation controller and programming said embedded Web server to also interactively communicate said rainfall data,

(b) receiving said rain fall data from said irrigation controller using said network connecting device,

(c) providing said network connecting device with additional weather data, and,

(d) changing said program or schedule data in response to said rainfall data and said additional weather data when interactively communicating using said network connecting device with said irrigation controller.